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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,015	02/16/2001	Li-Jau Steven Yang	24528.01000	4081

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John W. Carpenter
CROSBY, HEAFEY, ROACH & MAY
P. O. Box 7936
San Francisco, CA 94120-7936

EXAMINER

BAYARD, DJENANE M

ART UNIT PAPER NUMBER

2141

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/785,015

Applicant(s)

YANG ET AL.

Examiner

Djenane M Bayard

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application No. 2002/0186705 to Kadambi et al.

- a. As per claim 8, Kadambi et al teaches a method of accelerating packet re-assembly, comprising the steps of: parsing a header fields of an incoming packet to determine data needed for packet re-assembly (See page 20, paragraph [0235]) forwarding the packet to be re-assembled to a re-assembly mechanism; and placing the data needed for packet re-assembly in a local memory directly accessible by said re-assembly device (See page 18, paragraph [0219]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2004/0083299 to Dietz et al in view of U.S. Patent No. 6,430,233 to Dillon et al.

a. As per claim 1, Dietz et al teaches a packet header parser configured to parse packet header fields from incoming packets directed toward a host (See page 3, paragraph [0041]) However, Dietz et al fails to teaches a processing mechanism configured to perform packet reassembly on packets determined to have valid connections with said host; an address filter configured to identify data parsed from said packet header fields needed for packet re-assembly and place that data in a local memory directly accessible by said processing mechanism.

Dillon et al teaches a processing mechanism configured to perform packet reassembly on packets determined to have valid connections with said host (See col. 17, lines 59-63); an address filter configured to identify data parsed from said packet header fields needed for packet re-assembly and place that data in a local memory directly accessible by said processing mechanism (See col. 17, lines 54-57)

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a processing mechanism configured to perform packet

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reassembly on packets determined to have valid connections with said host; an address filter configured to identify data parsed from said packet header fields needed for packet re-assembly and place that data in a local memory directly accessible by said processing mechanism as taught by Dillon et al in the claimed invention of Dietz et al in order to pass the packets directly to the appropriate application (See col. 17, lines 64-65).

b. As per claim 2, Dietz et al teaches wherein said processing mechanism is an embedded CPU within the packet accelerator (See page 4, paragraph [0046]).

c. As per claim 3, Dietz et al teaches wherein said incoming packets are TCP packets (See page 2, paragraph [0042]).

d. As per claim 6, Dietz et al teaches wherein said forward engine is further configured to retrieve additional connection table values from said connection table when more than one connection has been stored by reference to said index (See page 10, paragraph [129 and 132]).

e. As per claim 7, Dietz et al teaches wherein said connection table comprises a set of first connection address data, each first connection address data is stored at a hashed index location and includes a pointer that is either null, indicating the first connection address data is the only connection address saved at its corresponding hashed index location, or pointing to a next connection address data indicating a next connection address saved at a same hashed index (See page 8, paragraph [0100]).

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2004/0083299 to Dietz et al in view of U.S. Patent No. 6,430,233 to Dillon et al. as applied to claim 1 above, and further in view of U.S. Patent No. 6,101,616 to Joubert et al.

a. As per claim 4, Dietz et al in view of Dillon et al teaches the claimed invention as described above. However Dietz et al in view of Dillon et al fails to teach wherein said address filter is further configured to, identify if the incoming packet is part of an established connection with said host, reject the incoming packet if it is not part of an established connection, and forward the incoming packet to said processing mechanism if it is part of an established connection.

Joubert et al teaches a data processing machine network architecture. Furthermore, Joubert et al teaches wherein said address filter is further configured to, identify if the incoming packet is part of an established connection with said host, reject the incoming packet if it is not part of an established connection, and forward the incoming packet to said processing mechanism if it is part of an established connection (See col. 9, lines 55-58).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said address filter is further configured to, identify if the incoming packet is part of an established connection with said host, reject the incoming packet if it is not part of an established connection, and forward the

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incoming packet to said processing mechanism if it is part of an established connection as taught by Joubert et al in the claimed invention of Dietz et al in view of Dillon et al in order to obtain an increase in load-carrying capacity and the reliability (See col. 2, lines 65-67).

b. As per claim 5, Dietz et al in view of Dillon et al teaches the claimed invention as described above. Furthermore, Dietz et al teaches wherein said address filter comprises: a hashing mechanism configured to determine an index based on at least part of the parsed header fields (See page 4, paragraph [0046]); a connection table containing connection information indexed by said hashing mechanism; and a forward engine configured to retrieve connection table values from said connection table corresponding to the incoming packets and compare the retrieved connection table values with the incoming; wherein said forward engine is further configured to, discard incoming packets that do not have matching connection information in said connection table (See page 4, paragraph [0048]). However, Dietz et al fails to teach forwarding the incoming packets to the processing mechanism for re-assembly if the incoming packets have matching connection information in said connection table.

Dillon et al teaches forwarding the incoming packets to the processing mechanism for re-assembly if the incoming packets have matching connection information in said connection table (See col. 17, lines 54-57)

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein forwarding the incoming packets to the processing mechanism for re-assembly if the incoming packets have matching connection

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information in said connection table in order to pass the packets directly to the appropriate application (See col. 17, lines 64-65).

6. Claims 9, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent application No. 2002/0186705 to Kadambi et al in view of U.S. Patent No. 6,101,616 to Joubert et al.

a. As per claim 9, Kadambi et al teaches the claimed invention as described above. However, Kadambi et al fails to teach the step of identifying if the incoming packet is part of an established connection with said host.

Joubert et al teaches identifying if the incoming packet is part of an established connection with said host (See col. 9).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate identifying if the incoming packet is part of an established connection with said host in order to obtain an increase in load-carrying capacity and the reliability (See col. 2, lines 65-67).

b. As per claim 15, Kadambi et al teaches packet header parser configured to parse packet header fields from incoming packets directed toward a host (See page 20, paragraph [0235]). However, Kadambi et al fails to teach a processing mechanism configured to perform packet reassembly on packets determined to have valid connections with said host: an address filter configured to, identify packets that are part of established connections with said host and forward those packets to said processing

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mechanism, and discard packets that are not part of an established connection; wherein said accelerator device is attached but not powered by a CPU of said host.

Joubert et al teaches a processing mechanism configured to perform packet reassembly on packets determined to have valid connections with said host: an address filter configured to, identify packets that are part of established connections with said host and forward those packets to said processing mechanism, and discard packets that are not part of an established connection; wherein said accelerator device is attached but not powered by a CPU of said host (See col. 9, lines 55-58).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a processing mechanism configured to perform packet reassembly on packets determined to have valid connections with said host: an address filter configured to, identify packets that are part of established connections with said host and forward those packets to said processing mechanism, and discard packets that are not part of an established connection; wherein said accelerator device is attached but not powered by a CPU of said host as taught by Joubert et al in the claimed invention of Kadambi et al in order to obtain an increase in load-carrying capacity and the reliability (See col. 2, lines 65-67).

c. As per claim 16, Kadambi et al teaches parsing a header fields of an incoming packet to determine data needed for packet re-assembly (See page 20, paragraph [0235]). However, Kadambi et al fails to teach determining if the incoming packet is part of an established connection; forwarding the packet determined to be part of an established connection to be re-assembled by a re-assembly mechanism; and discarding packets

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determined to not be part of an established connection; wherein said steps of parsing, determining, forwarding and discarding are not performed by a CPU of said host.

Joubert et al teaches determining if the incoming packet is part of an established connection; forwarding the packet determined to be part of an established connection to be re-assembled by a re-assembly mechanism; and discarding packets determined to not be part of an established connection; wherein said steps of parsing, determining, forwarding and discarding are not performed by a CPU of said host (See col. 9, lines 55-67).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate determining if the incoming packet is part of an established connection; forwarding the packet determined to be part of an established connection to be re-assembled by a re-assembly mechanism; and discarding packets determined to not be part of an established connection; wherein said steps of parsing, determining, forwarding and discarding are not performed by a CPU of said host as taught by Joubert et al in the claimed invention of Kadambi et al in order to obtain an increase in load-carrying capacity and the reliability (See col. 2, lines 65-67).

7. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent application No. 2002/0186705 to Kadambi et al in view of U.S. Patent No. 6,101,616 to Joubert et al. as applied to claim 9 above, and further in view of U.S. patent No. 6,424,650 to Yang et al.

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a. As per claim 10, Kadambi et al in view of Joubert et al teaches the claimed invention as described above. However, Kadambi et al in view of Joubert et al fails to teach hashing at least part of the parsed header fields to determine an index into a connection table; retrieving connection information from the connection table based on said index; comparing the connection information retrieved from the connection table to connection information from the parsed header fields; and if the connection information from the connection table matches the connection information from the parsed header fields, then, identifying the incoming packet as being part of an established connection with said host.

Yang et al teaches hashing at least part of the parsed header fields to determine an index into a connection table (See col. 3, lines 55-57); retrieving connection information from the connection table based on said index (See col. 3, lines 58-60); comparing the connection information retrieved from the connection table to connection information from the parsed header fields (See col. 3, lines 63-65); and if the connection information from the connection table matches the connection information from the parsed header fields, then, identifying the incoming packet as being part of an established connection with said host (See col. 4, lines 27-28).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate hashing at least part of the parsed header fields to determine an index into a connection table; retrieving connection information from the connection table based on said index; comparing the connection information retrieved from the connection table to connection information from the parsed header fields; and if the connection information from the connection table matches the connection information

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from the parsed header fields, then, identifying the incoming packet as being part of an established connection with said host as taught by Yang et al in the claimed invention of Kadambi et al in view of Joubert et al in order to prevent unwanted data frames from being passed through and processed by a receiving computer (See col. 3, lines 52-53).

b. As per claim 11, Kadambi et al in view of Joubert et al teaches the claimed invention as described above. However, Kadambi et al in view of Joubert et al fails to wherein said step of hashing comprises performing a polynomial CRC calculation on a predetermined number of lower bits of a TCP connection address of said incoming packet.

Yang et al teaches wherein said step of hashing comprises performing a polynomial CRC calculation on a predetermined number of lower bits of a TCP connection address of said incoming packet.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said step of hashing comprises performing a polynomial CRC calculation on a predetermined number of lower bits of a TCP connection address of said incoming packet as taught by Yang et al in the claimed invention of Kadambi et al in view of Joubert et al in order to check for error in data that has been transmitted on a communication link (see col. 5, 26-28).

c. As per claim 12, Kadambi et al in view of Joubert et al teaches the claimed invention as described above. However, Kadambi et al in view of Joubert et al fails to

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wherein said predetermined number of lower bits comprises a number of bits needed to identify a number of connections supported by said host.

Yang et al teaches wherein said predetermined number of lower bits comprises a number of bits needed to identify a number of connections supported by said host (See col. 5, lines 32-35).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said predetermined number of lower bits comprises a number of bits needed to identify a number of connections supported by said host as taught by Yang et al in the claimed invention of Kadambi et al in view of Joubert et al in order to generate a CRC value (see col. 5, lines 35)

d. As per claim 13, Kadambi et al in view of Joubert et al teaches the claimed invention as described above. However Kadambi et al fails to teach wherein the connection information from the connection table does not match the connection information from the parsed header, then, determining if any additional connection addresses are hashed into the connection table at said index, and if additional connection address are hashed into the connection table at said index, then, retrieving the additional connection addresses, comparing the additional connection addresses to the connection information from the parsed header fields, and if any of the additional connection addresses match the parsed header fields, identifying the incoming packet as being part of an established connection with said host.

Joubert et al teaches wherein connection information from the connection table does not match the connection information from the parsed header, then, determining if

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any additional connection addresses are hashed into the connection table at said index, and if additional connection address are hashed into the connection table at said index, then, retrieving the additional connection addresses, comparing the additional connection addresses to the connection information from the parsed header fields, and if any of the additional connection addresses match the parsed header fields, identifying the incoming packet as being part of an established connection with said host(See col. 9, lines 55-58).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate connection information from the connection table does not match the connection information from the parsed header, then, determining if any additional connection addresses are hashed into the connection table at said index, and if additional connection address are hashed into the connection table at said index, then, retrieving the additional connection addresses, comparing the additional connection addresses to the connection information from the parsed header fields, and if any of the additional connection addresses match the parsed header fields, identifying the incoming packet as being part of an established connection with said host as taught Joubert et al in the claimed invention of Kadambi et al in order to obtain an increase in load-carrying capacity and the reliability (See col. 2, lines 65-67).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent application No. 2002/0186705 to Kadambi et al in view of U.S. Patent No. 6,101,616 to Joubert et al. and further in view of U.S. patent No. 6,424,650 to Yang et al.

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as applied to claim 13 above, and further in view of U.S. Patent Application No.

2002/0118682 to Choe.

a. As per claim 14, Kadambi et al in view Joubert et al teaches the claimed invention as described above. However, Kadambi et al in view of Joubert et al fails to teach wherein: said step of determining if any additional connection addresses are hashed into the connection table at said index comprises determining if a next pointer field at said index of the connection table is null, indicating no other connection addresses are hashed into the index, or, not null, indicating that additional connection addresses have been hashed into the connection table at the index: and said step of retrieving the additional connection addresses comprises reading data pointed to by the next pointer field in the connection table at the index and each subsequent next pointer field of the read data.

Choe teaches wherein said step of determining if any additional connection addresses are hashed into the connection table at said index comprises determining if a next pointer field at said index of the connection table is null, indicating no other connection addresses are hashed into the index, or, not null, indicating that additional connection addresses have been hashed into the connection table at the index: and said step of retrieving the additional connection addresses comprises reading data pointed to by the next pointer field in the connection table at the index and each subsequent next pointer field of the read data (See page 6, paragraph 0079-0080)).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate said step of determining if any additional connection addresses are hashed into the connection table at said index comprises determining if a

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next pointer field at said index of the connection table is null, indicating no other connection addresses are hashed into the index, or, not null, indicating that additional connection addresses have been hashed into the connection table at the index: and said step of retrieving the additional connection addresses comprises reading data pointed to by the next pointer field in the connection table at the index and each subsequent next pointer field of the read data as taught by Choe in the claimed invention of Kadambi et al in order compare the pointers not having a null value to find a match (See page 7, paragraph [0080]).

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application NO. 2004/0083299 to Dietz et al in view of U.S. Patent No. 6,101,616 to Joubert et al. and further in view of U.S. patent No. 6,424,650 to Yang et al.

a. As per claim 17, Dietz et al teaches a packet header parser configured to parse packet header fields from incoming packets directed toward a host (See page 3, paragraph [0041]); wherein: said processing mechanism is an embedded CPU within the packet accelerator; said incoming packets are TCP packets (See page2, paragraph [0042]). However, Dietz et al fails to teach a processing mechanism configured to perform packet re assembly on packets determined to have valid connections with said host; and an address filter configured to identify data parsed from said packet header fields needed for packet re-assembly and place that data in a local memory directly accessible by said processing mechanism; said address filter is further configured to, identify if the

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incoming packet is part of an established connection with said host, reject the incoming packet if it is not part of an established connection, and forward the incoming packet to said processing mechanism if it is part of an established connection; and said address filter comprises, a hashing mechanism configured to determine an index based on at least part of the parsed header fields, a connection table containing connection information indexed by said hashing mechanism, and a forward engine configured to, retrieve connection table values from said connection table corresponding to the incoming packets and compare the retrieved connection table values with the incoming, discard incoming packets that do not have matching connection information in said connection table, and forward the incoming packets to the processing mechanism for re-assembly if the incoming packets have matching connection information in said connection table.

Joubert et al teaches a processing mechanism configured to perform packet re assembly on packets determined to have valid connections with said host; and an address filter configured to identify data parsed from said packet header fields needed for packet re-assembly and place that data in a local memory directly accessible by said processing mechanism; said address filter is further configured to, identify if the incoming packet is part of an established connection with said host, reject the incoming packet if it is not part of an established connection, and forward the incoming packet to said processing mechanism if it is part of an established connection (See col. 9, lines 55-67 and col. 10, lines 1-30).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a processing mechanism configured to perform packet re assembly on packets determined to have valid connections with said host; and an

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address filter configured to identify data parsed from said packet header fields needed for packet re-assembly and place that data in a local memory directly accessible by said processing mechanism; said address filter is further configured to, identify if the incoming packet is part of an established connection with said host, reject the incoming packet if it is not part of an established connection, and forward the incoming packet to said processing mechanism if it is part of an established connection as taught by Joubert et al in the claimed invention of Dietz et al in order to obtain an increase in load-carrying capacity and the reliability (See col. 2, lines 65-67). However, Dietz et al in view of Joubert et al fails to teach a hashing mechanism configured to determine an index based on at least part of the parsed header fields, a connection table containing connection information indexed by said hashing mechanism, and a forward engine configured to, retrieve connection table values from said connection table corresponding to the incoming packets and compare the retrieved connection table values with the incoming, discard incoming packets that do not have matching connection information in said connection table, and forward the incoming packets to the processing mechanism for re-assembly if the incoming packets have matching connection information in said connection table.

Yang et al teaches a hashing mechanism configured to determine an index based on at least part of the parsed header fields (See col. 3, lines 55-57), a connection table containing connection information indexed by said hashing mechanism, and a forward engine configured to, retrieve connection table values from said connection table corresponding to the incoming packets and compare the retrieved connection table values with the incoming, discard incoming packets that do not have matching connection

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information in said connection table (See col. 3, lines 63-65), and forward the incoming packets to the processing mechanism for re-assembly if the incoming packets have matching connection information in said connection table (See col. 4, lines 27-28).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a hashing mechanism configured to determine an index based on at least part of the parsed header fields, a connection table containing connection information indexed by said hashing mechanism, and a forward engine configured to, retrieve connection table values from said connection table corresponding to the incoming packets and compare the retrieved connection table values with the incoming, discard incoming packets that do not have matching connection information in said connection table and forward the incoming packets to the processing mechanism for re-assembly if the incoming packets have matching connection information in said connection table as taught by Yang et al in order to prevent unwanted data frames from being passed through and processed by a receiving computer (See col. 3, lines 52-53).

10. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application NO. 2002/0186705 to Kadambi et al in view of U.S. Patent No. 5,867,509 to Tanaka.

a. As per claim 18, Kadambi et al teaches A device for packet re-assembly, comprising: means for parsing headers of incoming packets directed toward a host (See page 20, paragraph [0235]). However, Kadambi et al fails to teach means for

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constructing a frame status; means for performing packet re-assembly on the incoming packet using said frame status; and means for storing said frame status in a memory local to said means for constructing; wherein: said frame status includes information needed to perform packet re-assembly; and said means for constructing performs said packet re assembly by using said frame status and not having to access a packet buffer for information contained in said packet header.

Tanaka et al teaches means for constructing a frame status; means for performing packet re-assembly on the incoming packet using said frame status; and means for storing said frame status in a memory local to said means for constructing; wherein: said frame status includes information needed to perform packet re-assembly; and said means for constructing performs said packet re assembly by using said frame status and not having to access a packet buffer for information contained in said packet header (See col. 5, lines 15-57).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate means for constructing a frame status; means for performing packet re-assembly on the incoming packet using said frame status; and means for storing said frame status in a memory local to said means for constructing; wherein: said frame status includes information needed to perform packet re-assembly; and said means for constructing performs said packet re assembly by using said frame status and not having to access a packet buffer for information contained in said packet header as taught by Tanaka in the claimed invention of Kadambi et al in order to reassembly processing of the frame upon receiving the communication data (See col. 5, lines 62-63).

b. As per claim 19, Kadambi et al teaches wherein said means for performing packet re-assembly comprises means for performing TCP packet re-assembly on the incoming packet (See page 20, paragraph [0232]).

c. As per claim 20, Kadambi et al teaches the claimed invention as described above. However, Kadambi et al fails to teach wherein said frame status comprises: a frame pointer configured to point to a memory location with the packet buffer of the incoming frame; at least one index/pointer field capable of being used to determine a connection address corresponding to said incoming packet; segment data comprising information that identifies whether a full segment of packets corresponding to the incoming packet have been received; sequence data identifying an order of the incoming frame within the segment corresponding to the incoming packet; length of the incoming packet; and an offset identifying a starting position of a payload of the incoming packet.

Tanaka teaches a frame pointer configured to point to a memory location with the packet buffer of the incoming frame; at least one index/pointer field capable of being used to determine a connection address corresponding to said incoming packet; segment data comprising information that identifies whether a full segment of packets corresponding to the incoming packet have been received; sequence data identifying an order of the incoming frame within the segment corresponding to the incoming packet; length of the incoming packet; and an offset identifying a starting position of a payload of the incoming packet (See col. 5, lines 15-57).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a frame pointer configured to point to a memory location with the packet buffer of the incoming frame; at least one index/pointer field capable of being used to determine a connection address corresponding to said incoming packet; segment data comprising information that identifies whether a full segment of packets corresponding to the incoming packet have been received; sequence data identifying an order of the incoming frame within the segment corresponding to the incoming packet; length of the incoming packet; and an offset identifying a starting position of a payload of the incoming packet as taught by Tanaka in the claimed invention of Kadambi et al in order to reassembly processing of the frame upon receiving the communication data (See col. 5, lines 62-63).

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application NO. 2002/0186705 to Kadambi et al in view of U.S. Patent No. 5,867,509 to Tanaka as applied to claim 18 above, and further in view of U.S. Patent No 6,101,616 to Joubert et al.

a. As per claim 21, Kadambi et al in view of Tanaka teaches the claimed invention as described above. However, Kadambi et al in view of Tanaka fails to teach means for identifying established connections with said host; means for comparing incoming packets with said established connections to determine if the incoming packets are part of

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an established connection with said host; and means for discarding the incoming packets if they are not part of established connections with said host.

Joubert et al teaches means for identifying established connections with said host; means for comparing incoming packets with said established connections to determine if the incoming packets are part of an established connection with said host; and means for discarding the incoming packets if they are not part of established connections with said host (See col. 9, lines 55-67 and col. 10, lines 1-30).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate means for identifying established connections with said host; means for comparing incoming packets with said established connections to determine if the incoming packets are part of an established connection with said host; and means for discarding the incoming packets if they are not part of established connections with said host as taught by Joubert et al in the claimed invention of Kadambi et al in view of Tanaka in order to obtain an increase in load-carrying capacity and the reliability (See col. 2, lines 65-67).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,690,667 to Warren teaches a switch with adaptive address lookup hashing scheme.

U.S. Patent No. 2002/0067745 to Coupe et al teaches a system and method for remultiplexing of a filtered transport stream.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M Bayard whose telephone number is (703) 305-6606. The examiner can normally be reached on 7:00 AM-4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (703) 305-4003. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

July 7, 2004


RUPAL DHARIA
SUPERVISOR